

Title (en)
STEEL SHEETS FOR HOT STAMPING, METHOD FOR MANUFACTURING SAME, AND METHOD FOR MANUFACTURING HIGH-STRENGTH PARTS

Title (de)
STAHLBLECHE FÜR HEISSPRÄGEN, HERSTELLUNGSVERFAHREN DAFÜR, UND VERFAHREN ZUR HERSTELLUNG HOCHFESTER TEILE

Title (fr)
FEUILLES D'ACIER DESTINÉES À L'ESTAMPAGE À CHAUD, PROCÉDÉ POUR LEUR FABRICATION ET PROCÉDÉ POUR LA FABRICATION DE PARTIES HAUTEMENT RÉSISTANTES

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Application
EP 11860663 A 20110309

Priority
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Abstract (en)
[origin: EP2684972A1] The present invention has as its object the provision of steel sheet for hot stamping use which is excellent in part strength after hot stamping and delayed fracture resistance comprised of large C content high strength steel sheet in which effective hydrogen traps are formed in the steel material. The steel sheet of the present invention solves this problem by forming Fe-Mn-based composite oxides in the steel sheet and trapping hydrogen at the interfaces of the composite oxides and matrix steel and in the voids around the composite oxides. Specifically, it provides steel sheet for hot stamping use which is comprised of chemical ingredients which contain, by mass%, C: 0.05 to 0.40%, Si: 0.02% or less, Mn: 0.1 to 3%, S: 0.02% or less, P: 0.03% or less, Al: 0.005% or less, Ti: 0.01% or less, N: 0.01% or less, one or both of Cr and Mo in a total of 0.005 to 1%, and O: 0.003 to 0.03% and which have a balance of Fe and unavoidable impurities and which contains average diameter 0.1 to 15 μ m Fe-Mn-based composite oxide particles dispersed in the steel sheet or furthermore has crushed voids around the composite oxide particles, a method of production of the same, and a method of production of a hot stamped high strength part.

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Citation (search report)

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